

STATE LANDS COMMISSION

REGULATIONS ESTABLISHING PERFORMANCE STANDARDS FOR THE DISCHARGE OF BALLAST WATER FOR VESSELS OPERATING IN CALIFORNIA WATERS

Initial Statement of Reasons

Title 2, Division 3, Chapter 1, Article 4.7

SPECIFIC PURPOSE OF THE REGULATION

As mandated by Section 71205.3 of the Public Resource Code (PRC), the purpose of this regulation is to establish performance standards for the discharge of ballast water by marine vessels in California waters. This, in turn, would minimize the transport of nonindigenous species in ballast water discharged into state waters.

NECESSITY

A nonindigenous species (NIS) is an organism that has been transported by humans to locations beyond its natural range. Once a species becomes established in a new area, it can cause severe adverse economic, ecological, and public health consequences in its new habitat. The transport of ballast water in marine vessels is recognized as a major mechanism through which aquatic NIS are spread. Current California law requires that vessels manage ballast water to reduce the discharge of nonindigenous organisms into California waters.

The performance standards and implementation schedule prescribed by these proposed regulations are necessary to minimize the transport of NIS into the waters of the State of California.

TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY, REPORTS, OR DOCUMENTS.

Falkner, M., L. Takata, and S. Gilmore. 2006. California State Lands Commission Report on Performance Standards for Ballast Water Discharges in California Waters. Sacramento, CA. 120 pgs.

International Maritime Organization (IMO). 2005. International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004. London. 137 pgs.

In the preparation of these proposed regulations, the Marine Facilities Division of the California State Lands Commission (the Commission) formed a cross-interest, multi-disciplinary Panel and facilitated discussions over the selection of standards. Beginning in February 2005, Commission staff solicited invitations for Panel participants. As

specifically mandated in Section 71204.9 of the PRC, representatives of the Department of Fish and Game, State Water Resources Control Board, and the United States Coast Guard (USCG) were contacted. In addition, researchers, representatives from non-government organizations, resource-related government agencies, and the maritime industry were also invited, including the United States Fish and Wildlife Service, The Ocean Conservancy, the Association of California Water Agencies, Matson Navigation, the Pacific Merchant Shipping Association, Chevron Shipping, and the Smithsonian Environmental Research Center. The USCG, as mandated by the National Invasive Species Act of 1996, is involved in efforts to establish federal standards and therefore declined to participate in the Advisory Panel.

Five meetings were held between March 7th and August 8th 2005, during which information sharing, discussions, and deliberations took place regarding criteria for the selection of ballast treatment performance standards and potential frameworks for their implementation. The Majority Panel voted for and prepared a report recommending a set of performance standards based on organism size class and an implementation schedule. Commission staff considered the recommended performance standards submitted by the Majority Panel in addition to reviewing the most current research and data available and prepared a report titled, "California State Lands Commission Report on Performance Standards for Ballast Water Discharges in California Waters". This report was approved by the Commission on January 29, 2006 and subsequently submitted to the State Legislature. In September 2006, the Governor signed the Coastal Ecosystems Protection Act, which requires the Commission to adopt the recommended performance standards and implementation schedule approved by the Commission.

REASONABLE ALTERNATIVES TO THE REGULATION AND THE AGENCY'S REASONS FOR REJECTING THOSE ALTERNATIVES.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private parties.

SMALL BUSINESS IMPACTS.

The commission finds that the adoption of Title 2, Division 3, Chapter 1, and Article 4.7 will not have a significant adverse impact on small business. None of the businesses that will be governed by these proposed regulations can be considered a "small business" as defined in Government Code Section 11342.610.

Title 2, Division 3, Chapter 1, Article 4.7

The following is the initial statement of reasons for each of the regulations. Prior to the explanation for each provision, the text of the regulation is set forth, indented and underlined.

Performance Standards for the Discharge of Ballast Water For Vessels Operating in California Waters

Section 2291. Purpose, Applicability, and Date of Implementation.

- (a) The purpose of the regulations in Title 2, Division 3, Chapter 1, Article 4.7 of the California Code of Regulations is to move the state expeditiously toward elimination of the discharge of nonindigenous species into the waters of the state or into waters that may impact the waters of the state, based on the best available technology economically achievable.

SPECIFIC PURPOSE OF THE REGULATION

This regulation addresses the overall intent of the proposed regulations in Article 4.7

NECESSITY

PRC §71201.7 and 71205.3 authorize the Commission to adopt regulations to implement the provisions of the amendments of the Marine Invasive Species Act (the Act). §2291(a) clearly states the purpose of the regulation.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

- (b) The provisions of Article 4.7 apply to all vessels that discharge ballast water in California waters except those that are exempt under Section 71202, Public Resources Code.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this provision is to make clear that the regulations only apply to vessels that discharge ballast water in California waters and thus specifies the vessels to which these regulations apply.

NECESSITY

The provision differentiates between vessels to which the regulations will apply and to those they will not apply. These regulations shall not apply to vessels of the armed forces, or vessel on innocent passage.

Existing legislation requires an owner or operator of a vessel carrying, or capable of carrying, ballast water that operates in the waters of the state to implement the interim performance standards for the discharge of ballast water. Vessels that retain all ballast water on board while in the waters of the state or those that discharge ballast water to an approved reception facility are not subject to these regulations (PRC §71205.3).

Additionally, existing legislation does not apply to a vessel of the armed forces, as defined in paragraph (14) of subsection (a) of Section 1322 of Title 33 of the United States Code that is subject to the "Uniform National Discharge Standards for Vessels of the Armed Forces". Finally, the existing legislation does not apply to a vessel in innocent passage, defined as a foreign vessel merely traveling the territorial sea of the United States and not entering or departing a United States port, or not navigating the internal waters of the United States, and that does not discharge ballast water into the waters of the state, or into waters that may impact the waters of the state (PRC §71202). This provision clarifies to whom these requirements apply.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

(c) The provisions of these regulations become effective on or before January 1, 2008.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this provision is to make clear the effective date of the regulations.

NECESSITY

PRC §71201.7 mandates the Commission adopt these regulations on or before January 1, 2008. This provision will obviate ambiguity.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

Section 2292. Definitions.

Unless the context otherwise requires, the following definitions shall govern the construction of this Article:

- (a) "Ballast Water Capacity" means the total volumetric capacity of any tanks, spaces, or compartments on a vessel used for carrying, loading or discharging ballast water, including any multi-use tank, space or compartment designed to allow carriage of ballast water.
- (b) "Board" means the State Water Resources Control Board
- (c) "Colony Forming Units" means a measure of viable bacterial numbers.
- (d) "Commission" means the California State Lands Commission.
- (e) "Constructed" means a stage of construction where:
 - (1) The keel is laid; or
 - (2) Construction identifiable with a specific vessel begins; or
 - (3) assembly of the vessel has commenced comprising at least 50 tonnes or 1 percent of the estimated mass of all structural material, whichever is less; or
 - (4) The vessel undergoes a major conversion.
- (f) "Major Conversion" means a conversion of a vessel:
 - (1) Which changes its ballast water carrying capacity by 15 percent or greater; or
 - (2) Which changes the vessel type; or
 - (3) Which, in the opinion of the Commission, is projected to prolong its life by ten years or more; or
 - (4) Which results in modifications to its ballast water system other than component replacement-in-kind. Conversion of a vessel to meet the provisions of this Article shall not be deemed to constitute a major conversion for the purposes of this Section.
- (g) "Vessel" means a vessel of 300 gross registered tons or more.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of Section 2292 is to define several key terms that are used throughout the language of the regulation to describe management requirements and regulation applicability. These definitions ensure that the performance standards and implementation schedule are clear to the shipping industry and compliance occurs as intended by the regulation.

NECESSITY

Sections 2292(a), 2292(e), and 2292(f) are defined directly by Regulation A-1 of the International Convention for the Control and Management of Ships' Ballast Water and

Sediments, 2004 (IMO 2005) and are adopted here to maintain international consistency and preserve the continuity and clarity of Article 4.7. Sections 2292(b), 2292(d), and 2292(g) are defined directly by PRC §71200 and are reiterated here to maintain the continuity and clarity of Article 4.7. Section 2292(c) is a common term used by microbiologists and is adopted here to preserve the continuity and clarity of Article 4.7

Specific terms are used in the regulatory text to describe fundamental components of the regulation. Without clarification, many of these terms can be subject to differing interpretation. These definitions, therefore, are necessary to ensure that these regulations precisely convey the intended interpretation of these specific terms in Article 4.7.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

Section 2293. Interim Performance Standards for Ballast Water Discharges

Subject to the Implementation Schedule in Section 2294, before discharging ballast water in waters subject to the jurisdiction of California, the master, owner, operator, or person in charge of a vessel to which this section applies shall conduct ballast water treatment so that ballast water discharged will contain:

- (a) No detectable living organisms that are greater than 50 micrometers in minimum dimension;
- (b) Less than 0.01 living organisms per milliliter that are less than 50 micrometers in minimum dimension and more than 10 micrometers in minimum dimension;
- (c) For living organisms that are less than 10 micrometers in minimum dimension:
 - (1) Less than 1,000 bacteria per 100 milliliter;
 - (2) Less than 10,000 viruses per 100 milliliter;
 - (3) Concentrations of microbes that are less than:
 - (A) 126 colony forming units per 100 milliliters of *Escherichia coli*;

(B) 33 colony forming units per 100 milliliters of *Intestinal enterococci*; and

(C) 1 colony forming unit per 100 milliliters or 1 colony forming unit per gram of wet weight of zoological samples of Toxicogenic *Vibrio cholerae* (serotypes 01 and 0139)

SPECIFIC PURPOSE OF THE REGULATION

This section provides specific interim performance standards for the discharge of ballast water for vessels that operate in California waters. Through meetings of a Technical Advisory Panel in addition to a review of the most current research and data available and in consultation with the State Water Resources Control Board (SWRCB), the performance standards described here have been deemed as the most biologically effective and economically feasible actions that would move expeditiously toward the elimination of the discharge of nonindigenous species into the waters of the state.

NECESSITY

The implementation of interim performance standards for the discharge of ballast water for vessels operating in California waters is mandated by §§71205.3(a) (1) of the PRC. Currently, California requires vessels operating in State waters to manage their ballast water utilizing a variety of options including the complete retention of ballast water, the exchange of ballast water, the discharge of ballast water to a shore-base treatment facility, or the use of an approved alternative ballast water treatment technology.

Ballast water exchange, the process of exchanging coastal water for mid-ocean water, is presently the most broadly applicable method for managing the risk of NIS introductions, though studies suggest that it may be of limited usefulness because its efficiency is inconsistent. Ballast water exchange efficiency ranges from 50-90%. Efficiency appears to be dependent on many factors such as ship design, ballast system configuration, and exchange location. Due to these limitations most experts view ballast water exchange as a short-term solution, with the final resolution being a combination of treatment technologies and management options.

Both the regulatory community and the commercial shipping industry look toward the development of an effective ballast water treatment technology as a promising management option. For regulators, such systems could provide NIS prevention, possibly even in situations where exchange may have been impossible. For the shipping industry, an effective ballast water treatment system might allow voyages to proceed along the shortest routes, in all operational scenarios, thereby saving time and money.

Despite these incentives, financial investment for the research and development (R&D) of ballast water treatment systems has been lacking, and the advancement of technologies has been slow. Barriers to furthering ballast water treatment technologies include: the lack of protocols for testing and evaluating performance; inadequate

communication between the R&D community, governments, and ship designers, builders and owners; cost of technology development; and equipment design limitations. However, the shipping industry, technology developers, and other investors point to the absence of a specific set of technology performance standards as a primary obstacle. Performance standards would set benchmark levels of organism discharge that a technology would be required to achieve for it to be deemed acceptable for use in California. Developers need these targets so they may design technologies to meet them. Investors are reluctant to devote financial resources towards conceptual or prototype systems without some indication that they may ultimately meet future regulations. For the same reason, vessel owners are hesitant to allow installation and testing of prototype systems onboard operational vessels. The adoption of performance standards would address these fears and accelerate the advancement of ballast treatment technologies.

In response to the slow progress of ballast water treatment technology development and the need for effective ballast water treatment options, §71204.9 of the PRC required the Commission to recommend specific performance standards to the State Legislature, in consultation with the SWRCB and in consideration of recommendations provided by an Advisory Panel. Recommendations were put forward to the Legislature by the Commission in a report produced in January of 2006 (Falkner et al. 2006).

Since submission of the final report to the legislature in January 2006, the recommendations put forward by the Commission were incorporated into new legislation. The Coastal Ecosystems Protection Act of 2006 (Senate Bill 497) was passed by lawmakers and signed by Governor Schwarzenegger in September 2006. This Act requires the Commission to develop and adopt regulations that implement the recommended performance standards by January 2008.

This section is required to define interim performance standards a vessel must adopt to comply with the regulation.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

Section 2294. Implementation Schedule for Interim Performance Standards for Ballast Water Discharges

Section 2293 applies to vessels in accordance with the following schedule:

(a) Beginning January 1, 2009, for vessels constructed on or after that date with a ballast water capacity of less than or equal to 5,000 metric tons.

(b) Beginning January 1, 2012, for vessels constructed on or after that date with a ballast water capacity greater than 5,000 metric tons.

(c) Beginning January 1, 2014, for vessels constructed before January 1, 2009, with a ballast water capacity of 1,500 metric tons or more but not more than 5,000 metric tons.

(d) Beginning January 1, 2016, for vessels constructed before January 1, 2009, with a ballast water capacity of less than 1,500 metric tons or greater than 5,000 metric tons.

SPECIFIC PURPOSE OF THE REGULATION

These sections present and describe the implementation schedule for the interim performance standards described in Section 2293. In consultation with the SWRCB and an Advisory Panel, the implementation schedule described here has been deemed the most economically feasible action that would move expeditiously toward the elimination of the discharge of nonindigenous species into the waters of the state.

NECESSITY

The implementation schedule for the interim performance standards is mandated by §§71205.3(a)(2) of the PRC and has been adopted by the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004. (IMO 2005).

In 2004, California ports received over 14000 vessel calls by nearly 2000 different vessels. Since July of 2001, over 5000 different vessels have operated in State waters. Depending on the nature of effective emerging technologies, installation of some systems may only be possible in shipyards. Currently, the demand for shipyard services exceeds supply, and scheduling typically occurs years in advance. Therefore, implementation timeframes must be appropriate not only in terms of the speed of technological development, but also shipyard availability for the retro-fit of existing vessels and construction of new vessels.

Based on Commission data, the majority of vessels (>4400) operating in California since July 1, 2001 have ballast water capacities exceeding 5000 metric tons . A sizable percentage of these vessels are over 10-years old and will presumably be nearing the end of their operational lifespan by the time a treatment system would be required to be installed. The vast majority of vessels will have approximately ten years to identify appropriate technologies, schedule necessary shipyard time, and install technology.

These sections are adopted here to maintain international consistency and preserve the continuity and clarity of Article 4.7.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

Section 2295. Implementation Schedule for Final Performance Standards for Ballast Water Discharges

Beginning January 1, 2020, before discharging ballast water in waters subject to the jurisdiction of California, the master, owner, operator, or person in charge of a vessel to which this section applies shall conduct ballast water treatment so that ballast water discharged will contain zero detectable living organisms for all organism size classes.

SPECIFIC PURPOSE OF THE REGULATION

This section provides specific final performance standards and an implementation schedule for the discharge of ballast water for vessels that operate in California waters.

NECESSITY

This provision is prescribed directly by PRC §71205.3 (a)(3), and is reiterated here to maintain the continuity and clarity of Article 4.7. §§71204.9 of the PRC required the Commission to recommend specific performance standards to the State Legislature, in consultation with the SWRCB and in consideration of recommendations provided by an Advisory Panel. Final recommendations were put forward to the Legislature by the Commission in a report produced in January of 2006 (Falkner et al. 2006).

Since submission of the final report to the legislature in January 2006, the recommendations put forward by the Commission were incorporated into new legislation. The Coastal Ecosystems Protection Act of 2006 (Senate Bill 497) was passed by lawmakers and signed by Governor Schwarzenegger in September 2006. This Act requires the Commission to develop and adopt regulations that implement the recommended performance standards by January 2008.

This section is required to define the final performance standard and implementation date by which a vessel must comply with the regulation.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.

Section 2296. Delay of Application for Vessels Participating in Promising Technology Evaluations

If an owner or operator of a vessel applies to install an experimental ballast water treatment system, and the Commission approves that application on or before January 1, 2008, the Commission shall deem the system to be in compliance with any future treatment standard adopted, for a period not to exceed five years from the date that the interim performance standards adopted pursuant to Section 2294 would apply to that vessel.

(1) The Commission may rescind its approval of the system at any time if the Commission, in consultation with the Board and the United States Coast Guard, and after an opportunity for administrative appeal with the executive officer of the Commission, determines that the system has not been operated in accordance with conditions in the agreed upon application package, or that there exists a serious deficiency in performance, human safety, or environmental soundness relative to anticipated performance, or that the applicant has failed to provide the Commission with required test results and evaluations.

SPECIFIC PURPOSE OF THE REGULATION

This regulation describes special circumstances under which a vessel may delay the implementation of the performance standards as directed in Article 4.7 of section 2294.

NECESSITY

This provision is prescribed directly by PRC §71204.7, and is reiterated here to maintain the continuity and clarity of Article 4.7.

The implementation schedule recommended by the Commission Report addressed the retrofitting of existing vessels as well as standards required for future vessel construction. The report identified another important, though very small, group of vessels that should be considered, those whose owners have elected to install prototype treatment technologies in advance of established performance standards. Regulation D-4 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (IMO 2005) addresses these vessels, by giving a 5-year extension to vessels that participate in an approved program to test promising ballast water treatment technologies prior to the date that standards become effective. Under this scenario, a vessel with ballast water capacity greater than 5000 MT that has an approved experimental treatment system installed in advance of the adoption of California performance standards would be allowed to use that system until 2021. At which time it must comply with the adopted performance standards. In general, these vessels' owners have worked closely with state, federal, and international entities, adding to our understanding of ballast water treatment

technologies onboard operational vessels. These sections are adopted here to maintain international consistency and preserve the continuity and clarity of Article 4.7.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON AFFECTED PRIVATE PERSONS.

The Commission Staff has determined that there are no alternatives which would be more effective in carrying out the purposes of the proposed regulation or would be as effective and less burdensome to affected private persons.